

comprises a 14H gene that complements an endogenous 14H gene mutation, and

3. observing the effect of the test compound on the prolyl 4-hydroxylase activity of the progeny of the test nematode, 14H-gene n filled nematode or the wild-type nematode, wherein a 100% embryonic lethal phenotype indicates prolyl 4-hydroxylase inhibition.

4. The method of claim 1, wherein the test compound is a chemical.

5. (Amended) The method of claim 1, wherein the test compound is a protein or peptide.

6. The method of claim 1, wherein the introduction of the test compound involves placing the nematode in a solution containing the test compound.

7. The method of claim 1, wherein the test compound is introduced into a wild-type nematode and the observation of 100% embryonic lethal phenotype indicates nematode prolyl 4-hydroxylase inhibition.

8. The method of claim 1, wherein the test compound is introduced into a 14H-gene n filled nematode

and the observation of a dpy or embryonic lethal phenotype indicates P4H inhibition.

7. The method of claim 1, wherein the introduction of a test compound is into a test chimeric nematode and the observation of dpy or embryonic lethal phenotype indicates non-native prolyl 4-hydroxylase inhibition.

B3 8. (Amended) The method of claim 1, wherein the test chimeric nematode is a *C. elegans* and harbors a dpy-18 mutation.

9. The method of claim 1, wherein the observation of a dpy phenotype indicates that the test compound modulates the P4H gene found on chromosome III.

B4 10. (Amended) A method for evaluating a test compound's ability to modulate prolyl 4-hydroxylase, comprising the step of:

a. introducing a test compound into a *Caenorhabditis elegans* comprising a dpy-18 or dpy-1 mutation phenotype, and

b. assessing the effect of the test compound on the prolyl-4-hydroxylase activity in the presence of the *Caenorhabditis elegans*, wherein the rescue of the

*P4H
control*

any-1 or any-1 phenotype indicates an increased level of
any-1-4-hydroxylase activity.

14. The method of claim 1 wherein the test compound
is part of a combinatorial chemical library.

15. The method of claim 12 wherein the test
compound is part of a combinatorial library.

P4H

17. (Amended) A method for evaluating a test
compound's ability to modulate P4H, comprising the steps
of:

(a) introducing a test compound into a test
chimeric *Caenorhabditis elegans*, a P4H-gene modified
Caenorhabditis elegans, or a wild-type *Caenorhabditis*
elegans, wherein the test chimeric *Caenorhabditis elegans*
has a complemented P4H gene mutation, and

(b) measuring the level of P4H activity of the
progeny of the test *Caenorhabditis elegans*, P4H gene
modified *Caenorhabditis elegans* or wild-type
Caenorhabditis elegans, wherein a lower P4H activity
compared to untested control *Caenorhabditis elegans*
indicates that the test compound is an inhibitor of P4H.